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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: JUL 2 1979

SUBJECT: Justification for Criteria Less Stringent than  
that Published in the "Red Book"FROM: Kenneth M. Mackenthun, Director  
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TO: WQS Coordinators

In a recent meeting on water quality standards and wasteload allocations with Don Theiler of Wisconsin we were asked to outline what is considered an adequate justification for a criterion of less than 5 mg/l for dissolved oxygen. Concern was expressed that EPA approval of a D.O. less than 5 mg/l for some waters has established a precedent for general approval of a D.O. less than 5 mg/l. Since similar concerns have been raised in other regions it may be useful to clarify the role of the "Red Book" and other Federally published water quality criteria in the State water quality standard process.

The "Red Book" is a collection of water quality criteria published by EPA. Water quality criteria are not regulations. They are, however, believed to represent the best in scientific judgment at the time of their publication on concentration-effect relationships of a constituent that, when not exceeded, will protect aquatic life, the consumers of aquatic life, and the users of water.

The use of "Red Book" criteria in water quality standards was delineated in published policy guidance on July 10, 1978 (43 F.R. 29588). This policy indicated that a State need not select a particular constituent in the "Red Book" to support a water use designation for a water quality standard. However, if a constituent addressed in the "Red Book" were made a part of a water quality standard, the criterion adopted by a State must be equally as protective of life in water as the EPA published criterion or appropriate justification must accompany the adoption of the less stringent criterion. It is recognized that national water quality criteria, such as published in the "Red Book" do not take into account the natural variability in waters among States. In particular waters for certain constituents the appropriate criterion to afford adequate protection for aquatic life may be more or less stringent than the "Red Book" criterion.

We are working toward developing guidance for the justification of a criterion less stringent than published in the "Red Book" as a result of many comments received on the March 15 issuance of water quality criteria for public comment. Until the time that this effort has been completed, preliminary justification for the adoption of a criterion less stringent than published in the "Red Book" may include:

- (1) a showing through sample analyses that the natural waterway background, which is divorced from controllable pollution, exceeds the published criterion;
- (2) a showing that regimens of flow, prevailing land use patterns, or other naturally occurring water characteristics are such that a specified deviation from the published criterion will not impact measurably the attainment in the waterway of the degree of fishable-swimmable conditions attainable for the watershed; or
- (3) a showing that more recent scientific information supports a deviation from the 1976 "Red Book" criterion.

The "Red Book" criteria are the benchmarks to adopt, or from which to justify other criteria to adopt, in water quality standards.